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IOWA'S PLANS AND PREPARATIONS FOR THE POSSIBLE ARRIVAL OF ASIAN SOYBEAN RUST IN 2005

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Introduction

Asian soybean rust, caused by the fungus *Phakopsora pachyrhizi*, can seriously reduce soybean yields and/or significantly increase the cost of soybean production when the disease occurs with high incidence and severity. Until most recently, the continental United States was the only major soybean-producing area of the world where the disease was not known to exist. But on November 10, 2004, all that changed. On that date, the United States Department of Agriculture (USDA) and subsequently the Iowa Department of Agriculture and Land Stewardship announced that Asian soybean rust had been confirmed near Baton Rouge, Louisiana. The fields where the rust infestations were found were bulk soybean fields located on research farms belonging to Louisiana State University. At the time of the discovery of these initial infestations, most of the commercial soybean fields in Louisiana had been harvested. X.B. Yang, Iowa State University plant pathologist, is one of the leading experts on Asian soybean rust in the world and was flown down to Louisiana as a member of the USDA soybean rust detection assessment team to evaluate the rust outbreak.

Soybeans in Iowa were fully mature and most had been harvested by the time that the Asian soybean rust infestations were discovered in Louisiana, so the disease did not affect Iowa soybean yields in 2004. Furthermore, it is not believed that soybean rust spores will be able to survive over winter in Iowa, so infestations of Asian soybean rust in Iowa soybean fields in the 2005 growing season will only develop if the spores blow up from the southern United States in the spring or summer.

Currently, the highest priority for growers and those who advise growers is to become informed about the soybean rust disease cycle, how to scout for disease, and what to do if soybean plants that are suspected to be infected with Asian soybean rust in Iowa are discovered in 2005.

A group called the Iowa Soybean Rust Team has worked to develop a plan to respond to the introduction of Asian soybean rust into the United States and into Iowa since November 2002. The Iowa Soybean Rust Team consists of individuals from the Iowa State University College of Agriculture, Iowa State University Extension (campus and field staff), the Iowa Department of Agriculture and Land Stewardship, the Iowa Soybean Association and Promotion Board, and the USDA Animal and Plant Health Inspection Service (APHIS). During the 2004 growing season, Iowa Soybean Rust Team developed a system in Iowa in which soybean samples that are suspected of possibly being infected with Asian soybean rust can be examined and passed

through a sequence of trained personnel to offer Iowa soybean growers rapid, cost-free, accurate identification of the disease. This system is called the Iowa Soybean Rust Fast Track Identification System.

Trained agronomists are the best qualified to watch for symptoms and signs of rust on a daily basis throughout the growing season across the millions of acres of soybeans in Iowa. So, the Iowa Soybean Rust Team recruited Certified Crop Advisers, Certified Professional Agronomists, and independent crop consultants in Iowa to serve as “First Detectors” for soybean rust. Five training sessions for Iowa soybean rust First Detectors were held throughout the state July 6–9, 2004, and 400 individuals were trained. Figure 1 illustrates the geographic distribution and frequency of individuals currently trained as Iowa soybean rust First Detectors.

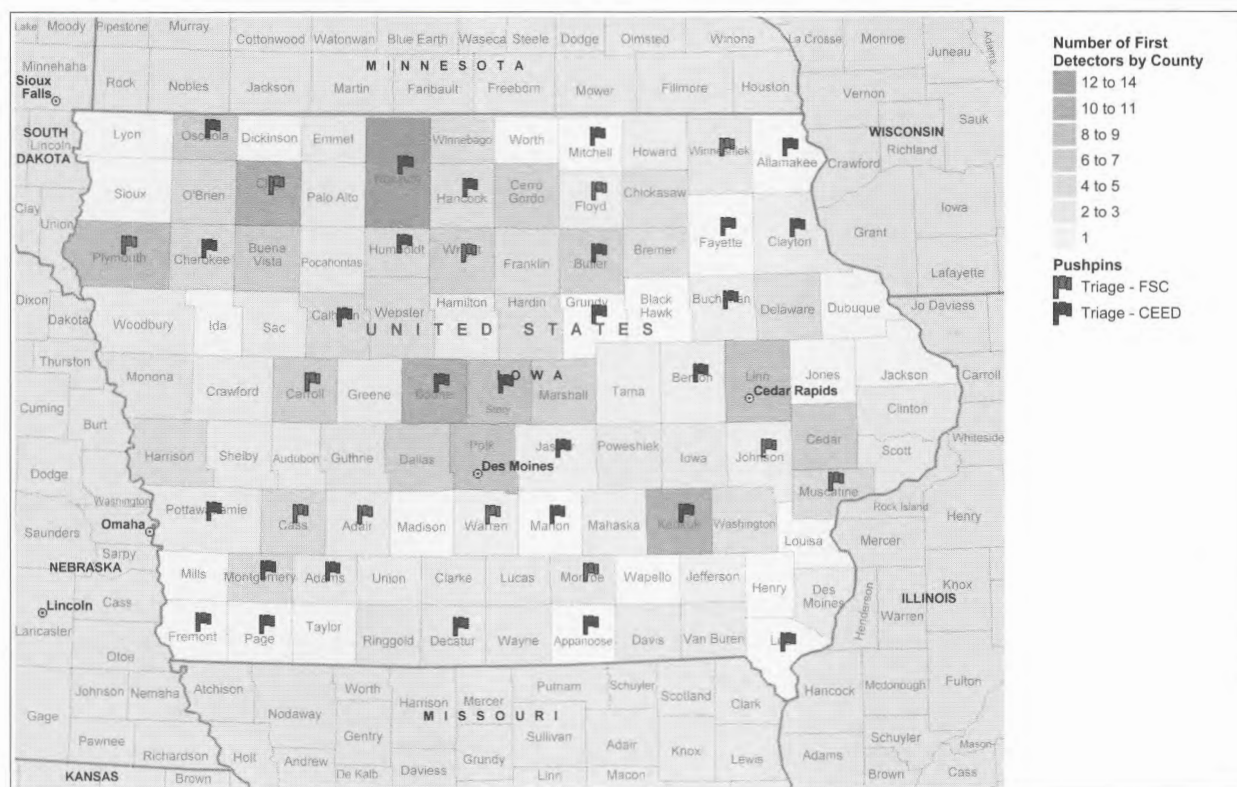


Figure 1. Geographic distribution and frequency of Iowa soybean rust First Detectors and Triage Team members in the Iowa Soybean Rust Fast Track identification System (as of November 2004).

A make-up Iowa soybean rust First Detector training session is being held on Friday morning, December 3, 2004, at the Iowa State Center Scheman Building. Within the Iowa Soybean Rust Fast Track Identification System, soybean rust First Detectors will pass along suspect samples of Asian soybean rust from Iowa to a team of 40 Iowa State University extension field personnel who have been trained to serve as the soybean rust Triage Team. The geographic distribution of the 40 Asian soybean rust Triage Team members in the Iowa Soybean Rust Fast Track Identification System also is illustrated in Figure 1.

To complete the official diagnosis of Asian soybean rust in Iowa, the Triage Team members will deliver suspected samples of Asian soybean rust to the Iowa State University Plant Disease Clinic, where information about the samples will be entered into the National Plant Diagnostic Network and the samples will be securely packaged and sent to an official USDA laboratory in Beltsville, Maryland, for final confirmation of infection by *Phakopsora pachyrhizi*.

The Iowa Soybean Rust Team currently is preparing publications and other educational materials on the fungicides available for use in managing the disease as well as recommended application practices. Additional and up-to-date information about the Iowa Soybean Rust Team, the Iowa Soybean Rust Fast Track identification System, and other information on Asian soybean rust can be found on the Iowa Soybean Rust Team home page on the Internet at www.soybeanrust.info.